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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/500,657	BERWANGER ET AL.
	Examiner	Art Unit	
	Alex Skripnikov	2473	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>23 November 2009</u>.

2a) ☐ This action is **FINAL**.　　2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>13-15 and 19-33</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>13-15 and 19-33</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>02 July 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☒ All　b) ☐ Some * c) ☐ None of:

　　　1. ☒ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Objections to claims 17-19 and rejections of claims 24-31 under 35 U.S.C. 112,

second paragraph, made in the previous Office action have been withdrawn, in view of

Applicants amendments filed on November 23, 2009.

Applicant's arguments with respect to claims 32 and 33 have been considered

but are moot in view of the new ground(s) of rejection.

Applicant's arguments regarding prior art rejections of claims 13 and 20, filed

November 23, 2009 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicants arguments (Remarks; page 11,

lines 4-page 12, line 4) because Stoneking et al. discloses messages transmitted over

the communication system whose identifier matches a predetermined identifier

(Stoneking et al. column 4, lines 50- 58); where Weigl et al. discloses to arbitrate

messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-

column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are

not linked to a particular user (because a timing window of a transmission matrix is

linked for exclusive components to a CAN message; Weigl et al.; column 6, lines 1-18))

according to the data about the cycle contained in the message (according to the

transmission matrix entry, where message includes rate of repetition of a transmission

matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into

the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines

48-51 and therefore when user is not linked to the time instant in the matrix, user will not

receive message (prevent from being loaded), because user is not lined to that

message in the transmission matrix; column 6, lines 1-18).

This Office action presents new grounds of rejections under 35 U.S.C. 101 and

112, second paragraph, are not necessitated by Applicants amendment. **Therefore,**

this Office action is made non-final.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims **20-32** rejected under 35 U.S.C. 101 because the claimed recitation of a

use, without setting forth any steps involved in the process, results in an improper

definition of a process, i.e., results in a claim which is not a proper process claim under

35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and

Clinical Products, Ltd. v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claims **13-15 and 19-33** rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claims 13 and 20: there is insufficient antecedent basis for limitation "the cycle"

(claim 13, line 7) (claim 20, line 8) in the claims.

Claims 22, 23, 32 and 33 (line 2): there is insufficient antecedent basis for

limitation "the current cycle" in the claims.

Claims 27-31 (line 1): there is insufficient antecedent basis for limitation "the data

traffic" in the claims.

6.   Claims **20-32** provide for the use of cycle-based communication system between

users of the system via a data bus, but, since claims do not set forth any steps involved

in the method/process, it is unclear what method/process applicant is intending to

encompass. Claims are indefinite where they merely recite a use without any active,

positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims **13-15, 19-24, and 27-29** rejected under 35 U.S.C. 103(a) as being

unpatentable over **Weigl et al. US 6,842,808, as a Pre-Grant Publication US**

2001/0018720, published on August 30, 2001, of record, in view of **Stoneking et al. US**

6,606,670, of record.

As to claim 13:

Weigl et al. discloses a cycle-based communication system for transmitting

useful data between users of the system, including a data bus and the users connected

to it (Weigl et al.; column 1, lines 44-48), in which the data transmission is effected

within cyclically repeating timeframes (first or base cycles; Weigl et al.; column 2, lines

24-35, line 56-57; Fig 4, BZOa-BZ7a) with at least two timeslots (timing windows) each

(Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig. 2), and each

timeslot is intended for transmitting one message (one periodic message Weigl et al.;

column 3, lines 22-24), one message contains at least some of the useful data (data;

Weigl et al.; column 6, lines 28-30), and each message is assigned an identifier

(identifier; Weigl et al.; column 6, lines 28-30), characterized in that the identifier is

stored in each message as part of the message (message includes identifier; Weigl et

al.; column 6, lines 28-30); that each message additionally includes (supplemented;

Weigl et al.; column 6, lines 28-33) data about the cycle (rate of repetition; Weigl et al.;

column 6, lines 28-40, defines after how many base cycles this transmission is

repeated); that the timeslots have a fixed length (specifiable length of timing windows;

Weigl et al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); and

that at least one of the timeslots of one timeframe can be used, in various cycles, for

offset transmission of different messages that are not intended for transmission in every

cycle (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a,

different messages (B,C) are transmitted offset (not transmitted in every cycle)).

Furthermore, Weigl et al. discloses data about the cycle (rate of repetition; Weigl

et al.; column 6, lines 28-40) has additional cycle data (after how many base cycles this

transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are not linked to a particular user (because a timing window of a transmission matrix is <u>linked for exclusive components</u> to a CAN message; Weigl et al.; column 6, lines 1-18)) according to the data about the cycle contained in the message (according to the transmission matrix entry, where message includes rate of repetition of a transmission matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines 48-51 and therefore when user is not linked to the time instant in the matrix, user will not receive message (prevent from being loaded), because user is not lined to that message in the transmission matrix; column 6, lines 1-18).

Weigl et al. fails to teach data about the cycle integrated with the identifier of each message; message can be learned from the identifier; messages transmitted over the communication system whose identifier matches a predetermined identifier.

However, Stoneking et al. discloses that any convenient fields and message format may be used depending on the particular implementation contemplated (Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier

used together with other field (RTR bit) for the purpose of message arbitration, message

can be learned from the identifier (numerical value for a function). (Stoneking et al.;

column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is

illustrated on Fig. 2A, 2B); messages transmitted over the communication system

whose identifier matches a predetermined identifier (Stoneking et al. column 4, lines 50-

58).

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the applicants' invention was made to access identifier field and supplemented rate

of repetition field described by Weigl et al. in a combination, as taught by Stoneking et

al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claims 14 and 15:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 13

above.

Furthermore, Weigl et al. discloses that the message includes data about the

cycle (rate of repetition (defines after how many cycles this (current) transmission is

repeated)) (Weigl et al.; column 6, lines 28-42; therefore, data about the cycle pertain to

the message and therefore pertain to the current cycle in which the message is sent

and include an ordinal number of the cycle (after how many cycles transmission is

repeated)).

As to claim 19:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 13

above.

Furthermore, Weigl et al. discloses the time data (timing window; Weigl et al.;

column 6, lines 28-37) include data about the chronological position of a timeslot within

a timeframe (Weigl et al.; column 6, lines 28-37; Fig. 4).

As to claim 20:

Weigl et al. discloses a method for transmitting useful data in a cycle-based

communication system between users of the system via a data bus, to which the users

are connected (Weigl et al.; column 1, lines 44-48), in which the useful data are

transmitted within cyclically repeating timeframes (first or base cycles; Weigl et al.;

column 2, lines 24-35, line 56-57; Fig 4, BZOa-BZ7a) each with at least two timeslots

(timing windows; Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig.

2), and in each timeslot one message (one periodic message; Weigl et al.; column 3,

lines 22-24) is transmitted, at least some of the useful data (data; Weigl et al.; column 6,

lines 28-30) are stored in memory in a message, and each message is assigned an

identifier (identifier; Weigl et al.; column 6, lines 28-30), wherein the messages are

transmitted in timeslots of fixed length (specifiable length of timing windows; Weigl et

al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); that the

identifier is stored in memory in the message (message includes identifier; Weigl et al.;

column 6, lines 28-30) as part of the message; that in each message, data about the

cycle (rate of repetition; Weigl et al.; column 6, lines 28-40, defines after how many

base cycles this transmission is repeated) are stored (supplemented; Weigl et al.;

column 6, lines 28-33) in memory; that in at least one of the timeslots of a timeframe,

different messages are transmitted offset from one another in various cycles, and in the

at least one timeslot, those messages that are not intended for transmission in every cycle are transmitted offset from one another (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a, different messages (B,C) are transmitted offset (not transmitted in every cycle)).

Furthermore, Weigl et al. discloses additional cycle data (after how many base cycles this transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are not linked to a particular user (because a timing window of a transmission matrix is linked for exclusive components to a CAN message; Weigl et al.; column 6, lines 1-18)) according to the data about the cycle contained in the message (according to the transmission matrix entry, where message includes rate of repetition of a transmission matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines 48-51 and therefore when user is not linked to the time instant in the matrix, user will not receive message (prevent from being loaded), because user is not lined to that message in the transmission matrix; column 6, lines 1-18).

Weigl et al. fails to teach additional cycle data integrated with the identifier of

each message; message can be learned from the identifier; messages transmitted over

the communication system whose identifier matches a predetermined identifier.

However, Stoneking et al. discloses that any convenient fields and message

format may be used depending on the particular implementation contemplated

(Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier

used together with other field (RTR bit) for the purpose of message arbitration, message

can be learned from the identifier (numerical value for a function). (Stoneking et al.;

column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is

illustrated on Fig. 2A, 2B); messages transmitted over the communication system

whose identifier matches a predetermined identifier (Stoneking et al. column 4, lines 50-

58).

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the applicants' invention was made to access identifier field and supplemented rate

of repetition field described by Weigl et al. in a combination, as taught by Stoneking et

al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claim 21:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 20

above.

Furthermore, Weigl et al. discloses that the users of the communication system

are each allocated at least one predeterminable timeslot of the timeframes (component

of transmission matrix) for data transmission (Weigl et al.; column 6, lines 1-4;

transmission groups also illustrated on Fig. 4).

As to claims 22-24:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 20

and 21 above.

Furthermore, Weigl et al. and Stoneking et al. disclose data pertaining to the

current cycle (timing window, base mark and rate of repetition; Weigl et al.; column 5,

lines 19-33) are additionally stored in memory in each message as part of the identifier

of that message (access identifier field and supplemented field described by Weigl et al.

in a combination, as taught by Stoneking et al.).

As to claims 27-29:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 22,

23 and 24 above.

Furthermore, Weigl et al. discloses current cycle data are monitored by the users

(monitoring time by users; Weigl et al.; Fig. 5); and a message is sent by a user in a

predeterminable timeslot only if the current cycle data match a predeterminable value

(message is transmitted only when watchdog is actuated based on the time mark (when

time matches time for transmission); Weigl et al.; column 4, line 24-column 5, lines 1-

22), stored in a memory of the user (timing mark within the watchdog; Weigl et al.;

column 4, lines 44-65), for the data pertaining to the current cycle (for transmission

matrix: timing window, base mark and rate of repetition; Weigl et al.; column 6, lines 1-

41; Fig. 2; Fig. 4).

Weigl et al. fails to teach data traffic on the data bus of the communication system is observed.

However, Stoneking et al. discloses that each message includes a message ID; In order to determine whether to process a received message, each node examines the message ID from the message; each node is configured to process messages whose message IDs meet predetermined criteria; these criteria may be, for example, that the message ID is one in a defined set, is within a certain numeric range or outside of a certain numeric range; If the extracted message ID meets the predetermined criteria, then the receiving node processes the message (Stoneking et al. column 4, lines 50-58);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to update method of exchange of data described by Weidl et al. such that to update nodes to process only those messages which are configured to process (meet predetermined criteria), described by Stoneking et al. in order to allow coordinated control of many control nodes within the system (Stoneking et al. column 1, lines 29-31).

9.   Claims **32 and 33** rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigl et al. US 6,842,808, as a Pre-Grant Publication US 2001/0018720**, published on August 30, 2001, of record, in view of **Stoneking et al. US 6,606,670**, of record and further in view of **Willard et al. US 5,600,312**.

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 13 and 20 above.

Weigl et al. and Stoneking et al. fail to teach either a MUX bit is used to store data pertaining to the current cycle in the message or a separate cycle counter is used to store data pertaining to the current cycle in the message.

However, Willard et al. discloses a separate cycle counter is used to store data pertaining to the current cycle in the message (Willard et al.; column 3, lines 15-16 and 32-60; column 4, line 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to provide separate cycle counter as taught by Willard et al. in the system taught by Weigl et al. and Stoneking et al. in order to provide frame timing synchronization in the system (Willard et al.; column 3, lines 15-16 and 32-60; column 4, line 20).

Allowable Subject Matter

10.   Claims **25, 26, 30 and 31** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Skripnikov whose telephone number is 571-270-

1958. The examiner can normally be reached on Monday - Friday 9:00 AM to 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 19, 2010   /Alex Skripnikov/
                                                                 Examiner, Art Unit 2473

                    /Steven HD Nguyen/
                    Primary Examiner, Art Unit 2473